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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 05/13/2009

TITLE OF INVENTION: HYBRID MICROTURBINE FOR GENERATING ELECTRICITY

Joseph Michael Teets 5225 SE Inkwood Hob Sound, FL 33455 EXAMINER NGUYEN, ANDREW H

PAPER NUMBER

ART UNIT

DATE MAILED: 05/13/2009

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/809,719 | 03/25/2004 | Joseph Michael Teets | 2003-04 | 8081 |

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|----------------|--------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | YES | \$755 | \$300 | \$0 | \$1055 | 08/13/2009 |

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

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B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and I/2 the ISSUE FIEE shown above.

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III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

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| Joseph Michael 5225 SE Inkwoo Hob Sound, FL 3 | d | /2009 | | I F Str ad tra | Cereby certify that these Postal Service valuessed to the Mainsmitted to the USP | tificate is Fee(vith sul I Stop TO (57 | e of Mailing or Trans: s) Transmittal is being ficient postage for firs ISSUE FEE address I) 273-2885, on the d | mission g deposited with the United st class mail in an envelope above, or being facsimile ate indicated below. |
| | | | | | | | | (Depositor's name) |
| | | | | | | | | (Signature) |
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| 10/809,719 | 03/25/2004 | | | Joseph Michael Teets | | | 2003-04 | 8081 |
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| APPLN, TYPE | SMALL ENTITY | IS | SUE FEE DUE | PUBLICATION FEE DUE | | EFEE | TOTAL FEE(S) DUE | DATE DUE |
| nonprovisional | YES | | \$755 | \$300 | \$0 | | \$1055 | 08/13/2009 |
| EXAM | INER | | ART UNIT | CLASS-SUBCLASS | J | | | |
| NGUYEN, A | | | 374I | 060-792000 | | | | |
| "Fee Address" indi PTO/SB/47; Rev 03-0; Number is required. 3. ASSIGNEE NAME AT | ondence address (or Cha //122) attached. cation (or "Fee Address 2 or more recent) attach ND RESIDENCE DATA ess an assignee is ident n in 37 CFR 3.11. Comp | nge of 'Indica ed. Use | Correspondence ation form of a Customer E PRINTED ON | | o 3 registered pater ively, gle firm (having as a agent) and the nam orneys or agents. If e printed. ype) patent. If an assign assignment. | memb es of u no nan | per a 2p to p to a is 3 | ocument has been filed for |
| Please check the appropri | ate assignee category or | catego | ries (will not be pr | inted on the patent): | Individual C | orporati | ion or other private gro | oup entity Government |
| Advance Order - # | o small entity discount p | | ed) | b. Payment of Fee(s): (Plo A check is enclosed. Payment by credit c The Director is herel overpayment, to Dep | ard. Form PTO-2038 ov authorized to cha | is atta | sched. required fee(s), any de | |
| | SMALL ENTITY state | s. See | 37 CFR 1.27. | b. Applicant is no lo | | | | |
| interest as shown by the r | Publication Fee (if requeended of the United Sta | iired) v tes Pat | will not be accepted ent and Trademark | office. | the applicant; a reg | stered | attorney or agent; or th | e assignee or other party in |
| Authorized Signature | | | | | Date | | | |
| Typed or printed name | | | | | Registration N | lo | | |
| This collection of informa an application. Confident submitting the completed this form and/or suggestic Box 1450, Alexandria, V Alexandria, Virginia 223 | ation is required by 37 C iality is governed by 35 application form to the ons for reducing this but irginia 22313-1450. DC 13-1450. | FR 1.3 U.S.C. USPT den, sl NOT | 11. The informatic 122 and 37 CFR O. Time will vary nould be sent to th SEND FEES OR | on is required to obtain or 1.14. This collection is e depending upon the ind e Chief Information Offi- COMPLETED FORMS | retain a benefit by stimated to take 12 ividual case. Any co cer, U.S. Patent and TO THIS ADDRES: | he pub minuter mment Trader S. SEN | lic which is to file (and s to complete, includin is on the amount of tin nark Office, U.S. Dep D TO: Commissioner | by the USPTO to process) g gathering, preparing, and me you require to complete artment of Commerce, P.O. for Patents, P.O. Box 1450, |

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| 75 | 90 05/13/2009 | | EXAM | UNER | |
| Joseph Michael Teets | | | NGUYEN, ANDREW H | | |
| 5225 SE Inkwood | | ART UNIT | PAPER NUMBER | | |
| Hob Sound, FL 33 | 455 | | 3741 | | |

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 841 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 841 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Application No. Applicant(s) 10/809 719 TEETS ET AL. Notice of Allowability Examiner Art Unit ANDREW NGUYEN 27/1 -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308. 1. This communication is responsive to a telephone call with Applicant on 4/10/09. 2. The allowed claim(s) is/are 17. 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). b) \(\subseteq \text{Some* c) \subseteq \text{None of the:} 1. T Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)). * Certified copies not received: _____. Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. CORRECTED DRAWINGS (as "replacement sheets") must be submitted. (a) Including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached 1) hereto or 2) to Paper No./Mail Date (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d). 6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL. Attachment(s) 1. | Notice of References Cited (PTO-892) 5. Notice of Informal Patent Application 2. Notice of Draftperson's Patent Drawing Review (PTO-948) Interview Summary (PTO-413), Paper No./Mail Date Information Disclosure Statements (PTO/SB/08). 7. X Examiner's Amendment/Comment Paper No./Mail Date 3/25/04

U.S. Patent and Trademark Office

of Biological Material

4. ☐ Examiner's Comment Regarding Requirement for Deposit

/Andrew Nguyen/ Examiner, Art Unit 3741 Other .

8. X Examiner's Statement of Reasons for Allowance

Application/Control Number: 10/809,719

Art Unit: 3741

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Inventor Joseph Teets on 4/10/09.

Regarding claim 17:

A gas turbine engine for generating electricity, comprising: an engine body; a first rotor spool with an axis of rotation within said engine body, said first rotor spool having a first bladed compressor rotor with an air inlet and exit, a first compressor rotor shaft and a first bladed turbine rotor with a gas inlet and exit; a [#2] second rotor spool with an axis of rotation perpendicular to the first rotor spool axis of rotation within said engine body, said second rotor spool having an integral alternator rotor with retained permanent magnets, a second bladed compressor rotor having an air inlet and exit and a second bladed turbine rotor having a gas inlet and exit; an electrical stator within said engine body[,] having electrical wire, laminates laminates of magnetically attracted material, and-said stator is coaxial with epaxially about and in close proximity to of the said alternator rotor where relative rotation to the said stator inner diameter causes flux change and subsequent electricity generation within the said wires: a

Application/Control Number: 10/809,719 Page 3

Art Unit: 3741

combustion system within the said engine body[,] receives compressor discharge air from the said #2 rotor spool, second bladed compressor rotor exit for combusting supplied fuel and delivering-of combusted gas energy to the #2-rotor speed second bladed turbine rotor; a #1 rotor speed within said engine body. having a bladed compressor rotor with an air inlet and exit, a compressor rotor shaft and a bladed turbine rotor with a gas inlet and exit; an air intake in said engine body with communication to said #1 rotor-spool-first compressor inlet: a #1 rotor spool the first turbine having a gas discharge duct within said engine body having fluid communication with said #1 rotor spool first turbine rotor exit; a first ducting means to deliver the said #1 rotor spool first compressor rotor exit pressurized air flow to the inlet of the said #2 rotor spool second compressor rotor inlet; a second ducting means to deliver said #2 speel second turbine rotor exiting gas energy to the said # 1 rotor spool first turbine rotor inlet; wherein said first ducting means induces a preswirl to the second compressor rotor inlet by one of a scroll volute shaped duct or by providing an air flow control plate inside the duct.

Claims 18-19, 21, 23-26, 28, 33, 35, and 36 are cancelled.

Allowable Subject Matter

- Claim 17 is allowed.
- The following is an examiner's statement of reasons for allowance:

Art Unit: 3741

The prior art fails to teach a multi-spool turbine wherein the axes of rotation of the first and second spools are perpendicular to one another within an engine body and wherein preswirl from the first compressor to the second compressor is induced by using a scroll volute duct or an air flow control plate within the duct. The arrangement of the rotors is significant with the preswirl duct because it affects how the housing and connecting ducts are arranged. Furthermore, scroll volutes were well known in the art used either at turbine inlets or at compressor exits, not at compressor inlets. The prior art also fails to teach control plates inducing preswirl into a second compressor from a first compressor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW NGUYEN whose telephone number is (571)270-5063. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cuff can be reached on (571)-272-6778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 10/809,719 Page 5

Art Unit: 3741

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AN/

/Michael Cuff/ Supervisory Patent Examiner, Art Unit 3741